

REMARKS

Favorable reconsideration is respectfully requested in view of the preceding amendments and the following comments.

Applicant submits herewith proposed drawing corrections for Figures 1 through 4, complying fully with the requirements in that regard.

The Examiner's Amendment is gratefully acknowledged.

The rejection of claims 1 to 3 "under 35 U.S.C. 103(a) as being unpatentable over Baumbartner (hereafter: Baumgartner) . . . in view of Cansler" is respectfully traversed. Criteria for combining references have been clarified by the Federal Circuit. Reference in this regard is respectfully made to the opinion for *In re Lee*, 61 U.S.P.Q.2d 1430 (Fed. Cir. 2002), at 1433 and 1434:

"The factual inquiry whether to combine references must be thorough and searching." It must be based on objective evidence of record. This precedent has been reinforced in myriad decisions, and cannot be dispensed with. "[P]articular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed." The Examiner can satisfy the burden of showing obviousness of the combination "only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references." The Board rejected the need for "any specific hint or suggestion in a particular reference" to support the combination of the two references. Omission of a relevant factor required by precedent is both legal error and arbitrary agency action.

More recently, the Federal Circuit has defined what constitutes a reasonably pertinent reference in its opinion for *State Contracting & Engineering Corp. v. Condotte America Inc.*, 68 U.S.P.Q.2d 1481 (Fed. Cir. 2003), at 1490:

"A reference reasonably pertinent if . . . it is one which because of the matter with which it deals, logically would have commanded itself to an inventor's attention in considering his problem. Thus, the purposes of both the invention and the prior art are important in determining whether the reference is reasonably pertinent to the problem the invention attempts to solve."

Applicant respectfully submits that the combination of references applied against the claims do not satisfy the requirements for combining references or even the requirement for reasonably pertinent references for precluding patentability. In the event that any art-based ground rejection is retained, the Examiner is requested to explain on the record how the noted criteria are satisfied. Small brushes suitable for applying lacquer, such as nail polish, which include a plastic handle having a diameter of approximately 1/8 of inch and which has an axial cavity in one end thereof in which a tuft of bristles is secure (Baumgartner – column 2, lines 19 to 24), and paint brushes (Cansler – Abstract, Figure 5, and column 4, lines 20 to 40) are directed to subject matter which is so unrelated to improving tooth brushes that they certainly would not be considered by any artisan faced with the Applicant's problem.

Each of the bristles of the Baumgartner brush is made of a fiber having 0.1 mm diameter, which is tapered to a length equivalent to 15 to 1 times the diameter from the end thereof (that is, the length of 1.5 to 0.1 mm from the end), wherein the diameter of the end is not identified. However, each of the bristles of the toothbrush according to the present invention is made of a fiber having 0.2 mm diameter, which is tapered to a length equivalent to 2.8-3.5 mm from the end thereof, wherein the diameter of the end is within 0.02 mm. In construction, the two inventions are significantly different.

Further, the bristles are tapered to a length of 0.1-1.5 mm from the ends thereof in the cited invention, whereas they are tapered to a length of 2.8-3.5 mm from the ends thereof in the present invention, which constitutes a significant difference in the construction of both inventions. This difference in length results from the fact that the bristles of the cited invention are tapered through rotary grinding, but those of the present invention are tapered first through immersion in chemicals and then through rotary grinding. It is not possible to make the bristles tapered to a length of 2.8-3.5 mm (as in the present invention) only through rotary grinding. In addition, the cited invention does not identify the diameters of the ends, but the present invention limits them to be within 0.02 mm.

Baumgartner indicates that nylon is a proper material for the brush bristles, and rayon or other synthetic fibers can also be used for them, but the present invention calls for PET or PBT as

raw materials for the brush thereof. In comparison with other kinds of synthetic materials, synthetic fibers, such as PET or PBT, are cheap and have excellent durability, but have low absorptiveness; for this reason they are very suitable for toothbrushes. However, since they have too strong elasticity and poor flexibility, use of toothbrushes made of PET or PBT bristles have mainly been used for low-priced toothbrushes or used in admixture with toothbrush bristles of nylon so as to reduce production costs. However, the present invention provides the finest toothbrush bristles by processing synthetic fibers of PET or PBT appropriately.

Baumgartner's invention, adapted for use in applying lacquer and the like to polish fingernails, is effective in evenly spreading the lacquer and the like on fingernails, whereas the present invention, adapted for use in scaling tarter within periodontal pockets, is effective in preventing damage to toothridges while brushing the teeth, by applying appropriate elasticity and excellent penetrability to toothbrush bristles. The effect of the present invention cannot be obtained from Baumgartner. The present invention is neither taught nor suggested by Baumgartner.

In addition to the fact that there is no valid basis for combining any teaching of Cansler with any teaching Baumgartner, much less the specific retrospective selection and reconstruction presented in Paper No. 5.

Cansler relates to paint brush bristles, whereas the present invention is directed to toothbrush bristles. Both inventions are distinctly different in concept, in use, and in construction. Moreover, the inventions of Baumgartner and of Cansler are clearly different in construction and effect. No basis whatsoever for combining any parts of these two references is supportable.

Applicant notes that Baumgartner issued more than fifty years ago. It is also noteworthy that activity in improving toothbrushes has been extremely great over that period of time. Notwithstanding that, toothbrushes covered by the present invention had not been introduced over that period of time prior to Applicant's invention, which has experienced commercial success and has gained public favor among consumers in the U.S.A., Japan and Europe.

Applicant has noted the further cited art. As there is no ground of rejection based thereon, further discussion thereof does not appear to be in order at this time.

Having overcome all outstanding grounds of rejection, favorable action on the merits is now in order and is respectfully solicited.

If there are any fees in connection with filing of this Amendment Under Rule 111, the Commissioner is authorized to charge any such fees to Deposit Account No. 06-1538.

Respectfully submitted,

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